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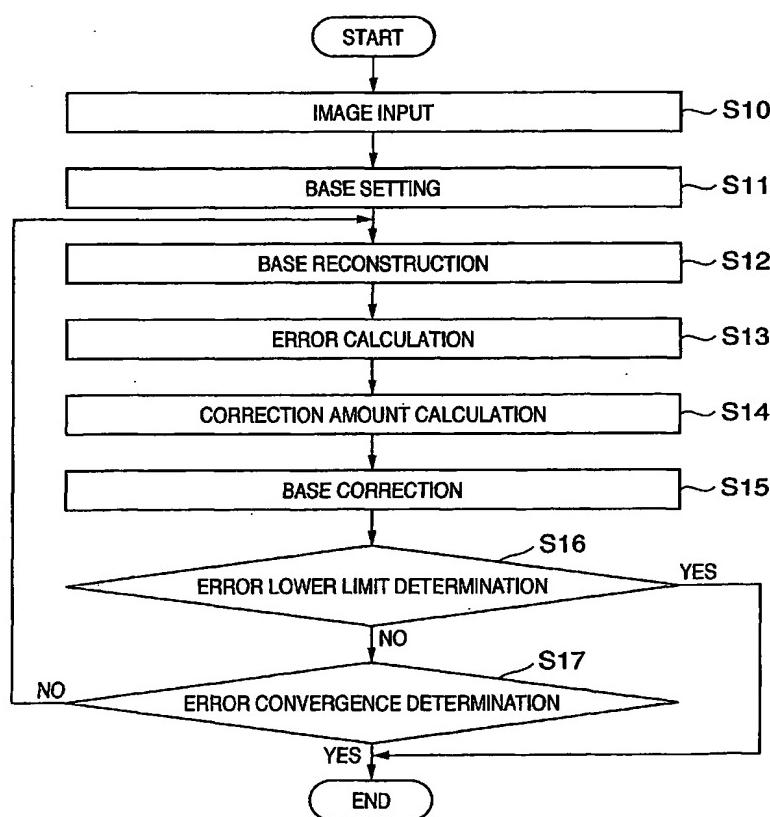
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(54) Title: CODING METHOD AND APPARATUS, AND COMPUTER PROGRAM AND COMPUTER-READABLE STORAGE MEDIUM



(57) Abstract: Data in multidimensional space such as a two-dimensional image is encoded with high efficiency. Further, as two-dimensional data can be decomposed to one-dimensional bases, the problem of wiring for two-dimensional parallelizing in a convolution arithmetic unit can be solved. For this purpose, two-dimensional image data  $f(x,y)$  to be encoded is inputted, and one-dimensional adaptive bases  $X(x), Y(y)$  representing the two-dimensional image are obtained. Next, a reconstructed image is generated based on the one-dimensional adaptive bases, and the one-dimensional adaptive bases are corrected based on an error  $E$  between the reconstructed image and the input image. The correction is repeated until the error  $E$  is reduced.



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